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Chemistry

Time Remaining: 45/45 (Minutes)

Q.1

Test 2 Atomic Structure

Chemistry Unit Wise

The total number of electrons in a shell are calculated by:

- a. $2(n)$
- b. $(n)^2$
- c. $2 \times X$
- d. $2(n)^2$

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.2

Test 2 Atomic Structure

Chemistry Unit Wise

If the value of $l = 3$ then the electron is located in _____ shell?

- a. K
- b. M
- c. N
- d. L

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.3

Test 2 Atomic Structure

Chemistry Unit Wise

After filling d orbitals the next electrons will enter into _____ orbital:

- a. s
- b. p
- c. d
- d. f

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.4

Test 2 Atomic Structure

Chemistry Unit Wise

An element form M^{+3} ion and belong to 3rd period of periodic table the number of protons in its nucleus are?

- a. 31
- b. 15
- c. 13
- d. 11

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.5

Test 2 Atomic Structure

Chemistry Unit Wise

According to Aufbu's principle the highest energy orbital will be filled:

- a. Immediately
- b. initially
- c. in the end
- d. first

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Correct Answer:

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- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.6

Test 2 Atomic Structure

Chemistry Unit Wise

Lowest energy electron are present in:

- a. s orbital
- b. p orbital
- c. d orbital
- d. f orbital

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- A
- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.7

Test 2 Atomic Structure

Chemistry Unit Wise

The lightest particle in nucleus is?

- a. Proton
- b. Electron
- c. Neutron
- d. All have same mass

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.8

Test 2 Atomic Structure

Chemistry Unit Wise

All orbitals of a d-sub shell are represented with four lobes except:

- a. d_{xy}
- b. $d_{x^2-y^2}$
- c. d_{z^2}
- d. d_{xz}

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.9

Test 2 Atomic Structure

Chemistry Unit Wise

The electrons should be filled in the order of increasing energy values is according to:

- a. Pauli Exclusion Principle
- b. Hund's rule
- c. Aufbau Principle
- d. Planck's quantum theory

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Correct Answer:

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- B
- C
- D

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Time Remaining: 44/45 (Minutes)

Q.10

Test 2 Atomic Structure

Chemistry Unit Wise

The ionization of an atom is:

- a. Always exothermic process
- b. May or may not be endothermic
- c. Always endothermic process
- d. May be exothermic or may be endothermic process

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 43/45 (Minutes)

Q.11

Test 2 Atomic Structure

Chemistry Unit Wise

All of the following pairs are isoelectronic except

a. S^{2-} and K^+ c. NO and N_2^- b. F^- and Ne d. C_3H_8 and CO_2

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Correct Answer:

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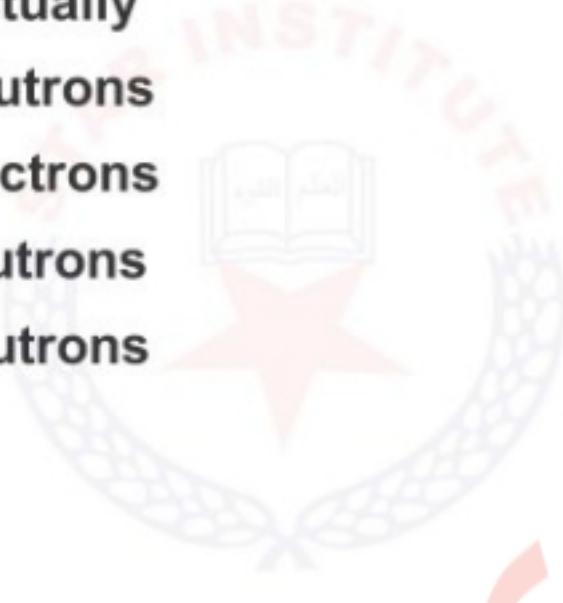
Q.12

Test 2 Atomic Structure

Chemistry Unit Wise

Alpha rays are actually

- a. 1 protons 2 neutrons
- b. 2 protons 2 electrons
- c. 2 protons 2 neutrons
- d. 2 protons 1 neutrons



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Correct Answer:

 A B C D

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Time Remaining: 43/45 (Minutes)

Q.13

Test 2 Atomic Structure

Chemistry Unit Wise

Their e/m ratio resembles with that of electrons

- a. Alpha rays
- b. Beta rays
- c. Gamma rays
- d. X-rays



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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 43/45 (Minutes)

Q.14

Test 2 Atomic Structure

Chemistry Unit Wise

The increasing penetration effect of atomic orbitals is:

- a. $d < p < s < f$
- b. $p < s < d < f$
- c. $s < f < p < d$
- d. $f < d < p < s$

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 43/45 (Minutes)

Q.15

Test 2 Atomic Structure

Chemistry Unit Wise

Which have better penetrating power?

- a. Alpha rays
- b. Beta rays
- c. Gamma rays
- d. X-rays

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 43/45 (Minutes)

Q.16

Test 2 Atomic Structure

Chemistry Unit Wise

If $n = 3$, $l = 1$, $m = +1, 0, -1$ then orbital is:

- a. 2s
- b. 2p
- c. 3p
- d. 3d



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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 43/45 (Minutes)

Q.17

Test 2 Atomic Structure

Chemistry Unit Wise

The element shows two valency if there is sufficient gap between:

- a. Third ionization energy and fourth ionization energy
- b. First ionization energy and second ionization energy
- c. Second ionization energy and third ionization energy
- d. Fourth ionization energy and fifth ionization energy

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Correct Answer:

A B C D

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Time Remaining: 43/45 (Minutes)

Q.18

Test 2 Atomic Structure

Chemistry Unit Wise

If proton number of an element 'Z' is 37 then the total number of electron in its ion 'Z-2' is:

- a. 37
- b. 35
- c. 39
- d. 18

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 43/45 (Minutes)

Q.19

Test 2 Atomic Structure

Chemistry Unit Wise

Which one of the following positive particles has maximum charge to mass ratio?

- a. O^+
- b. Na^+
- c. K^+
- d. H^+

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 43/45 (Minutes)

Q.20

Test 2 Atomic Structure

Chemistry Unit Wise

The charge one kilogram electron:

- a. 1.602×10^{-19} C
- b. 1.75×10^{11} C
- c. 9.1×10^{-31}
- d. 1.661×10^{-24}

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Correct Answer:

- A
- B
- C
- D

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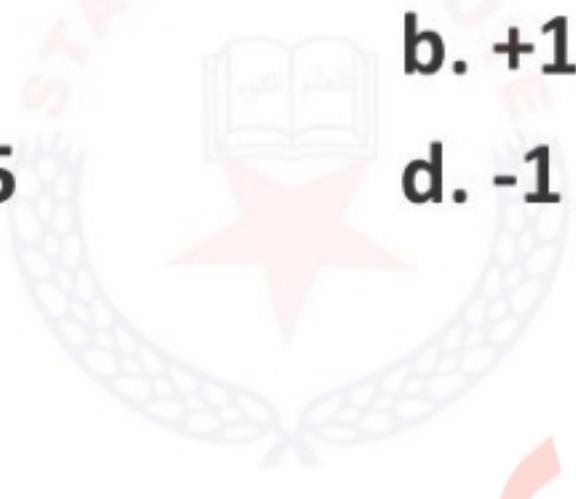
Q.21

Test 2 Atomic Structure

Chemistry Unit Wise

The relative mass of an electron is?

- a. 0
- b. +1
- c. 0.0005
- d. -1


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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 42/45 (Minutes)

Q.22

Test 2 Atomic Structure

Chemistry Unit Wise

If the nucleon number for the same element is different then its refers to:

- a. difference of electron
- b. Isotopes
- c. difference of protons
- d. All of these

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 42/45 (Minutes)

Q.23

Test 2 Atomic Structure

Chemistry Unit Wise

Sum of proton an neutrons in an atom is called its :

- a. isotope
- b. Atomic number
- c. Nucelon number
- d. *Atomic mass*

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 42/45 (Minutes)

Q.24

Test 2 Atomic Structure

Chemistry Unit Wise

Electronic configuration of K is:

- a. $[\text{Ar}]4s^2$
- b. $[\text{Ar}]4s^1$
- c. $[\text{Kr}]5s^1$
- d. $[\text{He}]2s^1$

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 42/45 (Minutes)

Q.25

Test 2 Atomic Structure

Chemistry Unit Wise

A set of orbitals having same value of 'l' is called:

- a. Shell
- b. Sub-shell
- c. molecular orbital
- d. Energy level

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Correct Answer:

- A
- B
- C
- D

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Q.26

Test 2 Atomic Structure

Chemistry Unit Wise

Which one of the following rule is used to arrange the sub energy levels in increasing order of energy?

- a. Hund's rule
- b. $(n+\ell)$ rule
- c. Octet rule
- d. Auf bau principle

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 42/45 (Minutes)

Q.27

Test 2 Atomic Structure

Chemistry Unit Wise

Which one is the heavier particle?

- a. Electron
- b. Proton
- c. Neutron
- d. Photon

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 42/45 (Minutes)

Q.28

Test 2 Atomic Structure

Chemistry Unit Wise

The total relative charge of an element is equal to:

- a. Its charge of electrons
- b. Zero
- c. its Charge of protons
- d. None of these

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Correct Answer:

- A
- B
- C
- D

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15



Time Remaining: 42/45 (Minutes)

Q.29

Test 2 Atomic Structure

Chemistry Unit Wise

The mass of electron is

- a. 1.6022×10^{-19} kg
- b. 1.6022×10^{-17} kg
- c. 9.1090×10^{-31} kg
- d. None

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 41/45 (Minutes)

Q.30

Test 2 Atomic Structure

Chemistry Unit Wise

Which one of the following determines the position of an element in the Periodic Table?

- a. chemical reactivity
- b. first ionization energy
- c. number of electrons in outer orbital
- d. number of protons in the nucleus of its atom

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- C
- D

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Time Remaining: 41/45 (Minutes)

Q.31

Test 2 Atomic Structure

Chemistry Unit Wise

An element with $4p^4$ valence electronic configuration will have period and group no. in modern periodic table?

- a. 4 and IV
- b. 4 and III
- c. 4 and VI
- d. 4 and V

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 41/45 (Minutes)

Q.32

Test 2 Atomic Structure

Chemistry Unit Wise

Which one of the following are Isosteres?

- a. H^{-1} and H
- b. N_2 and CO
- c. $_6C^{12}$ and $_8O^{16}$
- d. ^{20}Ar and ^{40}Ca



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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 41/45 (Minutes)

Q.33

Test 2 Atomic Structure

Chemistry Unit Wise

Which orbital is bigger in size and have maximum energy?

- a. 2px
- b. 3px
- c. 4px
- d. 5px

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 41/45 (Minutes)

Q.34

Test 2 Atomic Structure

Chemistry Unit Wise

The ionic species having more electrons than neutrons is

- a. Na^+
- b. Mg^{+2}
- c. O^{-2}
- d. F^{-1}

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 41/45 (Minutes)

Q.35

Test 2 Atomic Structure

Chemistry Unit Wise

What kind of orbital must an electron with the principal quantum number $n=2$ occupy?

- a. a spherically –shaped orbital
- b. either an s or p orbital
- c. the orbital closest to the nucleus
- d. a dumb-bell-shaped orbital

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Time Remaining: 41/45 (Minutes)

Q.36

Test 2 Atomic Structure

Chemistry Unit Wise

Which property is the same for the two nuclides $\frac{40}{18}$ Ar and $\frac{40}{19}$ K?

- a. the number of electrons
- b. the number of neutrons
- c. the number of nucleons
- d. the number of protons

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Correct Answer:

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- B
- C
- D

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Time Remaining: 41/45 (Minutes)

Q.37

Test 2 Atomic Structure

Chemistry Unit Wise

A spinning electron creates

- a. magnetic field
- b. electric field
- c. quantum field
- d. none



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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 41/45 (Minutes)

Q.38

Test 2 Atomic Structure

Chemistry Unit Wise

Atomic number of an element is 17. The number of pairs of paired and also unpaired electrons in the valence shell of atom is :

- a. 1, 3
- b. 3, 1
- c. 2, 2
- d. 4, 1

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Correct Answer:

- A
- B
- C
- D

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Time Remaining: 40/45 (Minutes)

Q.39

Test 2 Atomic Structure

Chemistry Unit Wise

The correct set of quantum number for unpaired electron in sodium atom is:

n / m

a. 2 0 0

b. 3 0 0

c. 2 1 1

d. 3 0 1



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Correct Answer:

 A B C D

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Time Remaining: 40/45 (Minutes)

Q.40

Test 2 Atomic Structure

Chemistry Unit Wise

The divisibility of atom was shown by

- a. Stoney
- b. J.J Thomson
- c. Millikan
- d. Rutherford

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Correct Answer:

- A
- B
- C
- D

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Q. 1

The total number of electrons in a shell are calculated by:

- a. $2(n)$
- b. $(n)^2$
- c. $2 \times X$
- d. $2(n)^2$**

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Q. 2

If the value of $l = 3$ then the electron is located in _____ shell?

- a. K
- b. M
- c. N
- d. L

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Q. 3

After filling d orbitals the next electrons will enter into _____ orbital:

- a. s
- b. p**
- c. d
- d. f

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Q. 4

An element form M^{+3} ion and belong to 3rd period of periodic table the number of protons in its nucleus are?

- a. 31
- c. 13**
- b. 15
- d. 11

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Q. 5

According to Aufbu's principal the highest energy orbital will be filled:

- a. Immediately
- b. initially
- c. **in the end**
- d. first

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Q. 6

Lowest energy electron are present in:

- a. **s orbital**
- b. *p orbital*
- c. *d orbital*
- d. *f orbital*

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Q. 7

The lightest particle in nucleus is?

- a. Proton
- b. Electron
- c. Neutron
- d. All have same mass

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Q. 8

All orbitals of a d-sub shell are represented with four lobes except:

- a. d_{xy}
- b. $d_{x^2-y^2}$
- c. d_{z^2}
- d. d_{xz}

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Q. 9

The electrons should be filled in the order of increasing energy values is according to:

- a. Pauli Exclusion Principle
- b. Hund's rule
- c. **Aufbau Principle**
- d. Planck's quantum theory

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Q. 10

The ionization of an atom is:

- a. Always exothermic process
- b. May or may not be endothermic
- c. Always endothermic process
- d. May be exothermic or may be endothermic process**

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Q. 11

All of the following pairs are isoelectronic except

a. S^{2-} and K^+	b. F^- and Ne
16+2	19-1
9+1	10
c. NO and N_2^-	d. C_3H_8 and CO_2
7+8	7+7+1
18+8	6+16

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Q. 12

Alpha rays are actually

- a. 1 protons 2 neutrons
- b. 2 protons 2 electrons
- c. 2 protons 2 neutrons
- d. 2 protons 1 neutrons

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Q. 13

Their e/m ratio resembles with that of electrons

- a. Alpha rays
- b. Beta rays
- c. Gamma rays
- d. X-rays

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Q. 14

The increasing penetration effect of atomic orbitals is:

- a. $d < p < s < f$
- b. $p < s < d < f$
- c. $s < f < p < d$
- d. $f < d < p < s$

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Q. 15

Which have better penetrating power?

- a. Alpha rays
- b. Beta rays
- c. Gamma rays
- d. X-rays

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Q. 16

If $n = 3$, $l = 1$, $m = +1, 0, -1$ then orbital is:

- a. 2s
- b. 2p
- c. 3p
- d. 3d

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Q. 17

The element shows two valency if there is sufficient gap between:

- a. Third ionization energy and fourth ionization energy
- b. First ionization energy and second ionization energy
- c. **Second ionization energy and third ionization energy**
- d. Fourth ionization energy and fifth ionization energy

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Q. 18

If proton number of an element 'Z' is 37 then the total number of electron in its ion ' Z^{-2} ' is:

- a. 37
- b. 35
- c. 39
- d. 18

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Q. 19

Which one of the following positive particles has maximum charge to mass ratio?

- a. O^+
- b. Na^+
- c. K^+
- d. H^+

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Q. 20

The charge one kilogram electron:

- a. 1.602×10^{-19} C
- b. 1.75×10^{11} C
- c. 9.1×10^{-31}
- d. 1.661×10^{-24}

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Q. 21

The relative mass of an electron is?

- a. 0
- b. +1
- c. **0.0005**
- d. -1

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Q. 22

If the nucleon number for the same element is different then its refers to:

- a. difference of electron
- b. Isotopes**
- c. difference of protons
- d. All of these

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Q. 23

Sum of proton an neutrons in an atom is called its :

- a. isotope
- b. Atomic number
- c. **Nucelon number**
- d. *Atomic mass*

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Q. 24

Electronic configuration of K is:

- a. [Ar]4s²
- b. [Ar]4s¹
- c. [Kr]5s¹
- d. [He]2s¹

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Q. 25

A set of orbitals having same value of 'l' is called:

- a. Shell
- b. Sub-shell
- c. molecular orbital
- d. Energy level

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Q. 26

Which one of the following rule is used to arrange the sub energy levels in increasing order of energy?

- a. Hund's rule
- b. $(n+\ell)$ rule
- c. Octet rule
- d. Auf bau principle

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Q. 27

Which one is the heavier particle?

- a. Electron
- b. Proton
- c. Neutron
- d. Photon

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Q. 28

The total relative charge of an element is equal to:

- a. Its charge of electrons
- b. Zero**
- c. its Charge of protons
- d. None of these

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Q. 29

The mass of electron is

- a. 1.6022×10^{-19} kg
- b. 1.6022×10^{-17} kg
- c. 9.1090×10^{-31} kg
- d. None

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Q. 30

Which one of the following determines the position of an element in the Periodic Table?

- a. chemical reactivity
- b. first ionization energy
- c. number of electrons in outer orbital**
- d. number of protons in the nucleus of its atom

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Q. 31

An element with $4p^4$ valence electronic configuration will have period and group no. in modern periodic table?

- a. 4 and IV
- b. 4 and III
- c. 4 and VI
- d. 4 and V

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Q. 32

Which one of the following are Isosteres?

- a. H^{-1} and H
- b. N_2 and CO
- c. ${}_6C^{12}$ and ${}_8O^{16}$
- d. ${}_{18}Ar^{20}$ and ${}_{20}Ca^{40}$

Isosteres: one of two or more substances (as carbon monoxide and molecular nitrogen) that exhibit similarity of some properties as a result of having the same number of total or valence electrons in the same arrangement and that consist of different atoms and not necessarily the same number of atoms

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Q. 33

Which orbital is bigger in size and have maximum energy?

- a. 2px
- b. 3px
- c. 4px
- d. 5px**

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Q. 34

The ionic species having more electrons than neutrons is

- a. Na^+
- b. Mg^{+2}
- c. O^{-2}
- d. F^{-1}

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Q. 35

What kind of orbital must an electron with the principal quantum number $n=2$ occupy?

- a. a spherically –shaped orbital
- b. either an s or p orbital**
- c. the orbital closest to the nucleus
- d. a dumb-bell-shaped orbital

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Q. 36

Which property is the same for the two nuclides $\frac{40}{18}$ Ar and $\frac{40}{19}$ K?

- a. the number of electrons
- b. the number of neutrons
- c. **the number of nucleons**
- d. the number of protons

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Q. 37**A spinning electron creates**

- a. magnetic field
- b. electric field
- c. quantum field
- d. none

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Q. 38

Atomic number of an element is 17. The number of pairs of paired and also unpaired electrons in the valence shell of atom is :

- a. 1, 3
- b. 3, 1
- c. 2, 2
- d. 4, 1

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Q. 39

The correct set of quantum number for unpaired electron in sodium atom is:

a. 2 0 0
b. 3 0 0
c. 2 1 1
d. 3 0 1

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Q. 40

The divisibility of atom was shown by

- a. Stoney
- b. J.J Thomson
- c. Millikan
- d. Rutherford

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